

Agilent Ref: 1000:190-1
United States Application Serial No. 09/816,058

REMARKS

Formal Matters

Claims 1-23 and 27-30 are pending and claims 10-24 are withdrawn from consideration.

Claims 1-9 were examined and rejected.

Claims 1, 4, 5 and 8 are amended. The amendments to the claims were made solely in the interest of expediting prosecution, and are not to be construed as an acquiescence to any objection or rejection of any claim.

Claims 27-30 are new.

Support for the amendments and the new claims is found in the claims as originally filed, and throughout the specification, in particular at the following exemplary locations: page 21, lines 27-29, page 13, line 10-12, Figure 1-5 (particularly the arrows drawn thereon) and page 8, lines 9-11, page 10 lines 18-22, page 7, lines 23-25 and the paragraph bridging pages 10 and 11, particularly the sentence bridging pages 10 and 11. No new matter is added.

Applicants respectfully request reconsideration of the application in view of the remarks made herein.

Interview summary

The Applicants wish to express their gratitude to Examiner Epperson for the interview on March 8, 2004, with Applicants' representatives James Keddie and Bret Field.

The outstanding rejection under 35 U.S.C. §102 was discussed during the interview, as well as arguments to overcome the rejection.

No agreement was reached, although the Examiner did indicate that further defining the first and second directions recited in the "determining" step of claim 1 may expedite prosecution.

Rejections under 35 U.S.C. § 112, second paragraph

Claims 1-8 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. This rejection is respectfully traversed.

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Claims 1 and 6-8 are rejected for reciting the term "the substrate". The Office argues that there is insufficient support for "the substrate".

Without wishing to acquiesce to the correctness of this rejection, the preamble of claim 1 has been amended to recite "a substrate".

The Applicants respectfully submit that this rejection may be withdrawn.

Claim 1 is rejected for reciting the term "the chemical moieties" in element (b) of the claim. The Office argues that there is insufficient support for "the chemical moieties".

The Applicants respectfully point out that "chemical moieties" are first recited in the preamble of the claim, and, as such, support for "the chemical moieties", as found in element (b) of the claim is found in the preamble of the claim.

The Applicants respectfully submit that this rejection may be withdrawn.

Claims 5 is rejected for reciting the term "the array and associated identification" on the first two lines. The Office argues that there is insufficient support for "the array and associated identification".

The Applicants respectfully submit that the term "the array and associated identification" is not present in the first two lines of claim 5.

Accordingly, this rejection may be withdrawn. If this rejection is to be modified and re-presented in the next Office Action, the Applicants respectfully request that the Office Action be non-final since the rejection will be new.

Claim 5 is rejected for reciting the term "forwarding the array and associated identification to a remote location". The Office argues that it is not clear what exactly is being forwarded – virtual information or a physical substrate.

Claim 5 is depended on claim 1, and the array of claim 1 is an article of manufacture containing multiple features of different chemical moieties. Accordingly, the array forwarded in claim 5 is a physical substrate. The identification may be an indicia on the substrate or housing thereof, or a field in a database, for example. Either one of these types of identification may be forwarded to a remote location – see page 7, lines 22-25 of the specification. The Applicants respectfully submit that the mere fact that a claim element encompasses more than one species does not necessarily make the claim unclear.

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The Applicants respectfully submit that the meaning of this term is clear, and this rejection may now be withdrawn.

Claim 8 is rejected for reciting the phrase "the first and second directions extend perpendicularly between respective sets of opposite edges of the substrate", which is asserted to be vague and indefinite. Citing the possibility that the phrase may encompass directions derived from an equilateral triangle produced by connecting two edges, the Office argues that the phrase is not clear.

The Applicants firstly wish to point out that equilateral triangles and lines produced by connecting two edges are neither recited in the claim, nor disclosed in the specification.

However, solely to expedite prosecution, claim 8 has been amended to state that "the first and second directions are perpendicular to each other".

The Applicants respectfully submit that the meaning of this claim is clear, and this rejection may now be withdrawn.

Rejection under 35 U.S.C. § 102

Claims 1-9 are rejected under 35 U.S.C. § 102(e) as anticipated by Indermuhle (Published U.S. Patent Application 20010036674). Indermuhle discloses an "elongated pillar" biochip and the Office argues that reagents are dispensed onto such a biochip by determining a direction with higher height uniformity, and depositing reagents in that direction. The Applicants respectfully disagree.

Solely to expedite prosecution and without any intention to acquiesce to the correctness of this rejection, claim 1 is amended to recite a comparison step in which height uniformity across a first and second directions of a substrate are compared to identify a first direction having higher height uniformity. Further, claims 1 and 5 are amended to recite that the first and second directions are both planar to the substrate (i.e., both the directions are in the "x-y" plane of the substrate). The Applicants respectfully submit that Indermuhle fails to disclose these newly added claim elements and, accordingly, this rejection may be withdrawn.

Indermuhle's system consists of an elongated pillar biochip (exemplified in Fig. 24), and a dispenser that has a system of wells (or nozzles) that mirror the pillars. To dispense

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reagents onto the pillars, the biochip and a corresponding dispenser having wells containing reagent are first aligned, and the biochip columns are "dipped" into the dispenser wells.

The Office argues that during this process, the Indermuhle's biochip is assessed to determine a direction with higher height uniformity. Specifically, the Office argues that "first direction", as recited in the instant claims, corresponds to a direction that is parallel to the "elongated" side of a pillar (i.e., in a "z" direction in relation to Indermuhle's biochip). The Office asserts that the "second direction", as recited in the claims, corresponds to a direction in the plane of Indermuhle's biochip (i.e., in an "x" or "y" direction), and reasons that during dispensing of materials onto Indermuhle's biochip, the first direction and the second direction are compared to identify the "tops" of a Indermuhle's pillars.

As discussed above, the Office interprets Indermuhle's "first direction" to be parallel to the elongated length of a pillar. Therefore Indermuhle's "first direction" is not planar with the substrate – it is in the "z" direction. Accordingly, the Applicants respectfully submit that Indermuhle does not anticipate the claims because Indermuhle does not disclose any method in which two directions that are both planar to a substrate are compared to identify a direction with higher height uniformity.

Further, the Applicants respectfully submit that Indermuhle does not place chemical moieties on the substrate "so as to provide features thereon along rows more closely aligned with the first direction" (as recited in claims 1 and 4). As discussed above, the Office interprets Indermuhle's "first direction" to be parallel to the elongated length of a pillar. Therefore Indermuhle's "first direction" is not planar with the substrate – it is in the "z" direction. Accordingly, in order to features along rows more closely aligned with the first direction, the features would have to be printed in a direction that comes directly "out" from the biochip. This is not disclosed by Indermuhle.

Accordingly, Indermuhle fails to disclose at least one element of the claimed invention. Since Indermuhle fails to disclose an element of the claimed invention, this rejection may be withdrawn.

Now claims 27 and 28, like claim 1, recite further features that are not disclosed by Indermuhle. For example, claim 27 recites a "planar" array, and claim 28 recites a "pulse jet printer". Both of these claims recite a method in which the first and second directions are planar to the substrate. The Applicants respectfully submit that these elements are not

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disclosed or suggested by Indermuhle, and accordingly, like claims 1 and 4, are patentable over Indermuhle.

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CONCLUSION

Applicants submit that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-1078.

Respectfully submitted,
BOZICEVIC, FIELD & FRANCIS LLP

Date: 4/13/04

By: James S. Keddie
James S. Keddie, Ph.D.
Registration No. 48,920

Date: 4/13/04

By: Bret Field
Bret Field
Registration No. 37,620

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